

U.S. Department of the Interior  
Bureau of Land Management  
Little Snake Field Office  
455 Emerson Street  
Craig, CO 81625-1129

## ENVIRONMENTAL ASSESSMENT

**EA-NUMBER:** DOI-BLM-CO-N010-2011-0096-EA

**CASEFILE/PROJECT NUMBER/LEASE NUMBER:** COC74895

**PROJECT NAME:** Peabody Sage Creek Mining LLC (PSCM) Coal Exploration License

**LEGAL DESCRIPTION:**

T6N, R87W, 6<sup>th</sup> PM

Section 29----	S $\frac{1}{2}$ , S $\frac{1}{2}$ N $\frac{1}{2}$	480 ac
Section 30----	S $\frac{1}{2}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , Lots 2-4	472ac
Section 31----	All	631 ac
Section 32----	NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$	560 ac
Section 33----	W $\frac{1}{2}$ SW $\frac{1}{4}$	80 ac
		<u>2,223 ac</u>

T5N, R87W, 6<sup>th</sup> PM

Section 4 -----	All	632 ac
Section 5 -----	Lots 2,3,5,6, SE $\frac{1}{4}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$	240 ac
Section 6 -----	Lots 5-11, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , NE $\frac{1}{4}$ SW $\frac{1}{4}$	350 ac
Section 7 -----	SW $\frac{1}{4}$ , S $\frac{1}{2}$ NW $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$	513 ac
Section 8 -----	SE $\frac{1}{4}$ , W $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NW $\frac{1}{4}$ , NE $\frac{1}{4}$ NW $\frac{1}{4}$	360 ac
Section 9 -----	All	640 ac
Section 21 ----	W $\frac{1}{2}$ NE $\frac{1}{4}$	80 ac
Section 22 ----	N $\frac{1}{2}$ , NW $\frac{1}{4}$ SW $\frac{1}{4}$	<u>360 ac</u>
		3,175 ac

T5N, R88W, 6<sup>th</sup> PM

Section 1 -----	S $\frac{1}{2}$ NE, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ , Lots 5-7	479 ac
Section 12 ----	E $\frac{1}{2}$	<u>320 ac</u>
		799 ac

Total acres: 6,197 acres

**APPLICANT:** Peabody Sage Creek Mining LLC (PSCM)

**PLAN CONFORMANCE REVIEW:** The proposed action is subject to the following plan:

Name of Plans: Little Snake Record of Decision and Resource Management Plan (RMP)

Date(s) Approved: October 2011

Results: The Proposed Action is in conformance with the LUP because it is specifically provided for in the following LUP goals, objectives, and management decisions as follows:

Allow for the availability of the federal coal and oil shale estate for exploration and development. Objectives for achieving these goals include:

- Identify and make available the federal coal and oil shale estate for exploration and development, consistent with appropriate suitability studies, to increase energy supplies.
- Facilitate reasonable, economical, and environmentally sound exploration and development of the federal coal and oil shale estate.

Section/Page: Section 2.13 Energy and Minerals/ page RMP-36

**PURPOSE AND NEED FOR PROPOSED ACTION:** Peabody Sage Creek Mining, LLC submitted an application for a coal exploration license. The purpose of the proposed action is to issue a coal exploration license to construct drill pads and drill coal exploration holes on private surface into unleased federally owned coal managed by the BLM. The need for the proposed action is established by BLM's responsibility under the Minerals Leasing Act (MLA) to respond to a coal exploration license application to obtain geological information and coal quality data to assess coal quality, geotechnical and geological data about the coal resource. The BLM action is to decide whether or not to issue a coal exploration license, and if so under what stipulations.

**PUBLIC SCOPING PROCESS:** This project was not scoped. The action in this EA is included in the NEPA log posted on the Little Snake Field Office (LSFO) web site: [http://www.blm.gov/co/st/en/BLM\\_Information/nepa/lsofo.html](http://www.blm.gov/co/st/en/BLM_Information/nepa/lsofo.html). A Notice of Availability to participate in the exploration license was published in the Federal Register and also in local newspapers.

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

Peabody Sage Creek Mining, LLC (PSCM) has submitted an application for an exploration license on private surface into un-leased federal coal. The exploration plan is for 2 holes located in Routt County on private surface, federal minerals. An exploration license expires after 2 years and cannot be renewed. The exploration plan can be modified. PSCM will use a rotary drill-rig capable of rotary drilling and spot-coring. The drill-rig is a truck-mounted, rubber-tired machine capable of operating in rough terrain. Support equipment will be include, but not be limited to, a water truck, pipe truck and/or pipe trailer, rig-up truck, air compressor, core trailer, and two to three four-wheel drive pickup trucks for the drill crew and company representatives. Each drill-hole will have a 40 – 60 foot section of threaded surface casing to stabilize unconsolidated

surface materials. Drill holes will be a nominal 6.25 inches in diameter and will be drilled vertically to 2,000 ft. The drill holes will extend approximately 70 ft. below the coal seam; core samples will be taken at the coal and associated roof and floor units. The primary circulation medium will be water and drilling mud. Depending on subsurface drilling conditions, air or an air/foam medium may be utilized as an alternative to mud. Water for drilling will come from PSCM controlled stock ponds. Only non-toxic, biodegradable compounds and additives will be used for drilling muds. After completion of drilling and coring operations, a truck-mounted geophysical logging unit will be used to obtain geophysical data.

Access to the drill sites will be by existing roads and jeep trails and the drill pads will be on areas of previous disturbance. The drill pads will be a maximum of 100 by 100 feet. Topsoil will be stockpiled for pad reclamation. Runoff and sediment will be controlled by placement of straw wattles or 1 foot high soil berms down gradient from stockpiles. Archeological surveys of the sites have been completed, and Colorado Parks and Wildlife (CPW) have been consulted regarding wildlife species.

Two or three mud pits will be constructed on the pad. These pits are 10 feet by 5 feet and 6 feet deep. Materials excavated from the pits will be stockpiled on the pad area and used to backfill the pits after drilling completion. All drilling fluids will be contained within the mud pits and all drilling supplies will be contained within the area of the drill pad. Any runoff from the drill pad will be controlled and contained by a perimeter soil berm or silt fence.

Upon completion of the exploration drilling, the pads and drill holes will be reclaimed. The drill holes will be cemented from top to bottom upon completion. The prevailing land uses within the project area include dry land farming, livestock grazing and wildlife habitat. Seeding of reclaimed exploration sites will occur during the first favorable seeding period (typically late fall [preferred], or early spring) following completion of site reclamation. Upon completion of exploration activities at a given site, all trash, debris, and exploration equipment and supplies will be removed from the site. Drilling fluids in mud pits will be allowed to dry, or they may be pumped from the mud pit for off-site disposal. Mud pits or excavated trenches will be backfilled with the excavated material and compacted to minimize any settling. Any excess drill cuttings will be spread over the drill pad, and the drill pads re-graded to approximate original configuration and blended with the adjacent terrain. Stockpiled or windrowed topsoil material will be redistributed at a uniform thickness over disturbed areas.

Disturbed areas will be reseeded to stabilize the surface and control erosion using a seed mixture developed in consultation with the surface landowner and CPW. Replaced topsoil material will be scarified prior to seeding, and areas will be drill or broadcast seeded at the prescribed rates. A harrow or similar implement will be used to drag the surface and cover the seed following seeding. A reclamation inspection attended by the surface owner, Colorado Division of Reclamation, Mining and Safety (CDRMS) and BLM will follow completion of reclamation activities. PSCM will post a reclamation bond for the surface and exploration holes.

**NO ACTION ALTERNATIVE:** An exploration license would not be issued. No new surface or drill hole disturbance would occur. Information on the un-leased federal coal resource and subsurface geology would not be obtained.

## **AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES/MITIGATION**

For the following resources and issues, those brought forward for analysis will be addressed below.

<b>Resource/Issue</b>	<b>N/A or Not Present</b>	<b>Applicable or Present, No Impact</b>	<b>Applicable &amp; Present and Brought Forward for Analysis</b>
Air Quality		X	
Areas of Critical Environmental Concern	X		
Environmental Justice			X
Cultural Resources			X
Flood Plains	X		
Fluid Minerals	X		
Forest Management	X		
Hydrology/Ground			See water quality - ground
Hydrology/Surface			See water quality - surface
Invasive/Non-Native Species			X
Native American Religious Concerns			X
Migratory Birds			X
Paleontology	X		
Prime and Unique Farmland	X		
Range Management		X	
Realty Authorizations	X		
Recreation/Transportation		X	
Socioeconomics			X
Soils	X		
Solid Minerals		X	
T&E and Sensitive Animals			X
T&E and Sensitive Plants	X		
Upland Vegetation		X	
Visual Resources		X	
Wastes, Hazardous or Solid	X		
Water Quality - Ground			X
Water Quality - Surface			X
Wetlands/Riparian Zones	X		
Wild and Scenic Rivers	X		
Wild Horse & Burro Mgmt	X		
Wilderness Characteristics/WSA's	X		
Wildlife - Aquatic	X		
Wildlife - Terrestrial			X

## CULTURAL RESOURCES

Affected Environment: Cultural resources, in this region of Colorado, range from late Paleo-Indian to Historic. For a general understanding of the cultural resources in this area of Colorado, see *An Overview of Prehistoric Cultural Resources, Little Snake Resource Area, Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resources Series, Number 20, *An Isolated Empire, A History of Northwestern Colorado*, Bureau of Land Management Colorado, Cultural Resource Series, Number 2 and *Colorado Prehistory: A Context for the Northern Colorado River Basin*, Colorado Council of Professional Archaeologists.

Environmental Consequences, Proposed Action: The issuance of a license to drill two coal exploration holes on split estate with federally managed coal minerals and private surface ownership is considered an undertaking under Section 106 of the National Historic Preservation Act. The National Historic Preservation Act requires a cultural resources study. The proposed drill locations have undergone Class III resource inventories.

Elkins, Melissa

2011 *Documentation that Twentymile Coal's proposed CCU065 Core Hole has undergone a Class III Cultural Resource Study*. BLM LSFO#54.8.2011. Metcalf Archaeological Consultants, Eagle, Colorado.

Nelson, Amy

2008 *Twentymile Coal Company Cow Camp (CCU) 9 Core Hole Locations, Class III Cultural Resource Inventory Routt County, Colorado*. BLM LSFO# OAHP# RT.LM.NR132. Metcalf Archaeological Consultants, Eagle, Colorado.

Nelson, Amy, Michael D. Metcalf, and Kenneth P. Cannon

2009 *Peabody Energy Twentymile Coal Company Sage Creek Subsidence Project: A Class III Cultural Resource Inventory, Routt County, Colorado*. OAHP# RT.LM.R93. BLM LSFO#54.2.2010. Metcalf Archaeological Consultants, Eagle, Colorado.

These studies identified no historic properties eligible for the National Register of Historic Places. Exploration plans for these specific exploration holes can be approved.

Mitigation Measures: None

The following standard stipulations apply for this project:

1. Any cultural and/or paleontological (fossil) resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and the authorized officer will make any decision as to proper mitigation measures after consulting with the holder.

2. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:
  - Whether the materials appear eligible for the National Register of Historic Places;
  - The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
  - Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
3. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Environmental Consequences, No Action Alternative: The project would not go forward and cultural resources would not be affected.

## **ENVIRONMENTAL JUSTICE**

Affected Environment: Executive Order 12898 (20) requires federal agencies to assess projects to ensure there are no disproportionately high or adverse environmental, health, or safety effects on minority and low-income populations. Although the proposed coal exploration would occur in Routt County, Moffat County is the county of residence for the majority of the mining personnel and supports most of the indirect employment that provides supplies and services to mine workers and their families. In 2009, Moffat County had a population of 31,322 persons, of which approximately 5,137 (16.4%) were minorities and approximately 3,790 (12.1%) were living below the poverty level. Minority populations were lower in Moffat County than in the state of Colorado; the low-income population in Moffat County was higher than for the state of Colorado. The Council on Environmental Quality (CEQ) identifies minority and low income groups as Environmental Justice populations when either (1) the population of the affected area exceeds 50 % or (2) the population percentage in the affected area is meaningfully greater (generally taken as being at least 10% more) than the population percentage in the general population of the region or state. Neither the minority population percentage nor the low-income

population percentage in Moffat County meets the CEQ guidelines. As a result, it is assumed that no environmental justice populations exist within the project area.

Environmental Consequences, Proposed Action and No Action Alternatives: No minority or low income populations would be directly affected in the vicinity of the project area.

Mitigation Measures: None

## **INVASIVE/NON-NATIVE SPECIES**

Affected Environment: Invasive and noxious weeds are present in the area. Invasive annuals such as downy brome (cheatgrass), blue mustard and yellow alyssum are common, occupying disturbed areas. Invasive annual weeds are typically established on disturbed and high traffic areas whereas biennial and perennial noxious weeds are less common in occurrence. Colorado noxious weeds that are present within the surrounding areas include spotted knapweed, hoary cress (whitetop), hound's tongue, leafy spurge, Canada thistle and biennial thistles. The BLM cooperates with Routt County Weed Program to employ the principals of Integrated Pest Management to control noxious weeds on BLM lands in Routt County. The proposed project area is not on BLM surface ownership but spread of weeds or newly established infestations can easily move between varying land ownerships.

Environmental Consequences, Proposed Action: The surface disturbing activities and associated traffic involved with drilling exploration would create an environment and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife would also assist with the distribution of weed seed into the proposed project area. The annual invasive weed species (downy brome, yellow alyssum, blue mustard and other annual weeds) occur on adjacent areas and would occupy the disturbed areas. Establishment of perennial grasses and other seeded plants is expected to provide the necessary control of invasive annual weeds within 2 or 3 years. Additional seeding treatments of the disturbed areas may be required in subsequent years if initial seeding efforts are not successful.

The perennial and biennial noxious weeds in the area are less frequently established but some potential exists for their establishment. The largest concern in the project area would be for these species to become established and not be detected, providing seed which can be moved onto adjacent rangelands.

Successful reclamation of the disturbed areas, as well as weed control utilizing integrated practices, including herbicide applications, would help to control the noxious weed species.

Environmental Consequences, No Action Alternative: None

Mitigation Measures: None

## **MIGRATORY BIRDS**

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality. The LSFO provides both foraging and nesting habitat for a variety of migratory bird species. Several species on the USFWS's Birds of Conservation Concern (BCC) List occupy these habitats within the LSFO.

Specific to the project area, native plant communities are comprised primarily of sagebrush with an understory of forbs and grasses. There are also Conservation Reserve Program (CRP) and dry land crop fields within the general area. A variety of migratory birds may utilize the vegetation communities within the project area during the nesting period (May through July) or during spring and fall migrations. The project area contains limited nesting and/or foraging habitat for the following USFWS 2008 Birds of Conservation Concern: golden eagle, Brewer's sparrow, sage sparrow, sage thrasher and loggerhead shrike. There are no known golden eagle nests within the project boundary, but open habitats are likely used for hunting by this species.

Environmental Consequences, Proposed Action: The Proposed Action would temporarily disturb less than one acre of migratory bird habitat. This disturbance would be minimal within the larger landscape and would be unlikely to degrade nesting or foraging habitat. If drilling activities occur during the nesting season, there could be negative impacts to migratory bird species through nest destruction or increased stress leading to nest abandonment. As this would only impact less than one acre of habitat, impacts would be minimal. Overall, the project is not expected to have a measurable influence on the abundance or distribution of migratory birds at the regional scale.

Environmental Consequences, No Action Alternative: There would be no impacts to migratory birds from this alternative.

Mitigation Measures: None

## **NATIVE AMERICAN RELIGIOUS CONCERNS**

Letters were sent to the Uinta and Ouray Tribal Council, Southern Ute Tribal Council, Ute Mountain Utes Tribal Council, Shoshoni Tribal Historic Preservation Officer, and the Colorado Commission of Indian Affairs in the spring of 2011 discussing upcoming projects the BLM would be working on in FY10 and FY11. Letters were followed up with phone calls. No comments were received (Letters on file at the Little Snake Field Office, Craig, Colorado).

## **SOCIOECONOMICS**

Affected Environment: The social and economic study area for the proposed action includes Routt and Moffat counties and the communities of Steamboat Springs, Oak Creek, Hayden and Craig. These communities currently provide the workforce for the Sage Creek Mine, as well as



providing mining services, retail, business and consumer services in the area. Steamboat Springs is the county seat of Routt County; Craig is the county seat of Moffat County.

Moffat County comprises 4,742.25 square miles with 2.8 people per square mile and a total population of 13,980 people in 2009. Other communities in the county include Maybell (2000 population of 370), and Dinosaur (2000 population of 335), (US Census Bureau 2000). Moffat County is the county of residence for the majority of the mining personnel and supports most of the indirect employment that provides supplies and services to mine workers and their families. Mining employment in Moffat County in 2009 was 1,000 full time jobs.

(<http://www.bls.gov/lau/laucntycur14.txt>)

Environmental Consequences, Proposed Action: The local economy may have some direct but minimal, short-term benefit from support services to the drilling crews, but only a small number of people would be affected. No additional demand for housing or municipal services would be anticipated. Indirect benefits to the surrounding economy may occur if the assessment of coal quality, geotechnical and geological data about the coal resource leads to additional exploration in the project area. The indirect effects could include effects due to overall employment opportunities related to the coal mining service support industry in the region as well as the economic benefits to state and county governments related to royalty payments and severance taxes.

It is not likely that the proposed project activities would generate high levels of concern, opposition, or dissatisfaction among local residents. A small, temporary increase in activity and noise disturbance may occur in rural subdivisions and areas primarily used for grazing, farming or hunting. Public land users would not be affected since all proposed activity occurs on private surface.

Environmental Consequences, No Action Alternative: There would be minimal effects to the local work force due to the reduction in employment related to the drilling of coal exploration holes. Ongoing mining activities occur in the project area at present, the no action alternative would cause minimal impact, either beneficial or adverse, to the present socioeconomic environment.

Mitigation Measures: None

## **T&E ANIMAL SPECIES**

Affected Environment: There are no Endangered Species Act (ESA) listed or proposed species that inhabit or derive important benefit from the project area. Critical habitat for the razorback sucker, Colorado pikeminnow, bonytail chub and humpback chub is located downstream of the project area.

The general area provides habitat for greater sage-grouse, a BLM sensitive species and a candidate for ESA listing. Greater sage-grouse utilize sagebrush ecosystems in the area for breeding, nesting and brood-rearing. There is one active lek in the vicinity of the two drilling locations.

Habitat for two additional BLM sensitive species, Columbian sharp-tailed grouse and Brewers's sparrow, occurs in the project area. Sagebrush stands in the project area provide habitat for Columbian sharp-tailed grouse. The general area provides breeding, nesting and winter habitat for this species. There are four leks located in the vicinity of the drilling locations.

Brewer's sparrows are a summer resident in Colorado and nest in sagebrush stands. Nests are constructed in sagebrush and other shrubs in denser patches of shrubs. This species would likely be nesting in the project area from mid-May through mid-July.

#### Environmental Consequences, Proposed Action:

##### *Colorado River Fish*

Proposed exploration activities would not directly affect Colorado River endangered fish. Since no habitat for these fish occurs in the project area, direct impacts to water quality such as erosion, sediment yield and potential spills are expected to be negligible. The U.S. Fish & Wildlife Service has determined that water drawn from any tributary to the Colorado River Basin is considered a depletion which may jeopardize the continued existence the four endangered fish species. The BLM considers water drawn from local groundwater wells or purchased from local municipal water supplies to be depletions. Water used during the drilling operations would result in minor water depletion.

In July 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities in the Colorado River Basin. In response to BLM's PBA, the FWS issued a Programmatic Biological Opinion (PBO) #ES/GJ-6-CO-08-F-0010 on February 25, 2009, which determined that water depletions from the Colorado River Basin resulting from BLM actions described in the PBO are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker or result in the destruction or adverse modification of their critical habitat.

The PBO addresses internal and external BLM projects including impoundments, diversions, water wells, pipelines and spring developments. The FWS determined that projects that fit under the umbrella of the PBA would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts to the Upper Colorado River Basin if they deplete relatively small amounts of water (less than 100 acre feet) and BLM makes a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. This project is expected to deplete 2000 gallons (.006 acre feet) from the Upper Colorado River Basin. The project will be entered into the LSFO water depletion log which will be submitted to the BLM Colorado State Office at the end of the Fiscal Year.

##### *Greater sage-grouse and Columbian Sharp-tailed Grouse*

Project activities would result in temporary habitat loss and displacement of grouse from areas near or adjacent to the exploration area. Potential impacts to habitat include crushing and killing of vegetation and introduction and spread of weeds. Indirect impacts such as noise and human presence could disturb grouse using habitat in the project area. This would temporarily displace

grouse to adjacent habitat while exploration activities are conducted. Noise and increased human activity related to drilling can disrupt breeding and nesting activities. To prevent significant impacts to greater sage-grouse and Columbian sharp-tailed grouse, construction and drilling activities should not be permitted from March 1 to June 30. This timing limitation would prevent accidental nest destruction, nest and lek abandonment and displacement into less suitable habitat. With the above mitigation, the Proposed Action would have minimal impacts to greater sage-grouse and Columbian sharp-tailed grouse.

#### *Brewer's Sparrow*

Impacts to Brewer's sparrows are described in the Migratory Bird section of this EA.

Mitigation Measures: To protect breeding and nesting greater sage-grouse and Columbian sharp-tailed grouse, exploratory drilling activities would not be permitted from March 1 to June 30.

Environmental Consequences, No Action Alternative: There would be no impacts to T&E or BLM sensitive species from this alternative.

### **TERRESTRIAL WILDLIFE**

Affected Environment: Specific to the project area, native plant communities are comprised primarily of sagebrush with an understory of forbs and grasses. There are also CRP and dry land crop fields within the general area. These communities typically provide habitat for big game species as well as small mammals, reptiles and birds. The area provides winter habitat for mule deer and elk.

Environmental Consequences, Proposed Action: The Proposed Action would temporarily disturb less than one acre of wildlife habitat. Populations of mobile wildlife species likely would disperse to adjacent undisturbed habitats and remain throughout the duration of exploration activities. Activities under the Proposed Action are not likely to result in measurable direct effects to species with larger home ranges. The Proposed Action may have negligible effects on individuals of terrestrial wildlife species through displacement or localized habitat disturbance, but would not constitute a threat to the viability of any terrestrial wildlife species populations.

Environmental Consequences, No Action Alternative: There would be no impacts to terrestrial wildlife species or their habitat from this alternative.

Mitigation Measures: None

### **UPLAND VEGETATION**

Affected Environment: Both proposed exploratory holes are located in a sagebrush-grass plant community that is on a Claypan ecological site. The sites are dominated by alkali sagebrush, green rabbitbrush, Hood's phlox, tapertip onion, daisy fleabane, western wheatgrass, Sandberg bluegrass, and prairie junegrass.

Environmental Consequences, proposed action: Each well would result in the removal of approximately 0.23 acres of native vegetation. This disturbance would be minimal within the overall landscape. Required reclamation practices would greatly minimize any long-term impacts within the adjacent plant communities and ensure that the potential for weed establishment and spread is minimized.

Environmental Consequences, No Action Alternative: None

Mitigation Measures: None

## **WASTE, HAZARDOUS OR SOLID**

Affected Environment: Potential sources of hazardous or solid waste materials in the project area would include spilling or leaking of petroleum products, and/or solid waste associated with drilling activities. No such hazardous materials are known to be present on the proposed exploration sites at this time. During drilling operations, diesel fuel, hydraulic oil, motor oil, grease and antifreeze would be present.

Environmental Consequences, Proposed Action: The project would fall under environmental regulations that impact disposal practices and impose responsibility and liability for protection of human health and the environment from harmful waste management practices or discharges. The direct impact would be if a solid waste or hazardous material is discarded and contaminates land surface either by solid, semi-solid, liquid, or contained gaseous material. Hazardous, civil, and criminal penalties may be imposed if the waste is not managed in a safe manner, and according to EPA regulations.

Mitigation Measures: The project would be regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C regulations, which are extremely stringent, as well as the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that provides for the definition of hazardous substance, pollutant, and contaminant. The mitigation would include the stringent regulation of waste containment within the project area.

Environmental Consequences, No Action Alternative: Under the No Action alternative, because no drilling or construction activities would be permitted there would be no effects.

## **WATER QUALITY – GROUND**

Affected Environment: Within the proposed exploration license area, ground water exists in the structural Twentymile Park ground water basin under water table conditions. Known water-bearing units include the Trout Creek sandstone, Wadge coal seam overburden, Twentymile sandstone, and surface alluvial deposits. The exploration holes will not penetrate the Trout Creek sandstone. The aquifers generally produce small sustained yields (about 0-10 gal/min.). Most recharge occurs in the spring at the higher altitude margins of the area when snowmelt eventually saturates the ground and enables deep percolation.

Environmental Consequences, Proposed Action: The proposed action of utilizing non-toxic, biodegradable compounds and additives in the drilling mud would have little to no effect on the ground waters.

Environmental Consequences, No Action Alternative: None

Mitigation Measures: None.

## **WATER QUALITY – SURFACE**

Affected Environment: Any surface runoff from the project area (specifically, the proposed exploration holes) would flow primarily into Sage Creek, a perennial tributary of the Yampa River. As of 2010, Sage Creek (below Routt County Road 51D) is on the Colorado Department of Public Health and Environment's (CDPHE) Section 303(d) list of Water Quality Limited Segments because of a low priority selenium impairment (CDPHE 2010). The mainstem of Sage Creek, including all tributaries and wetlands from the source to the confluence with the Yampa River, is use protected and must support Aquatic Life Warm 2, Recreation N, and Agricultural uses.

Reference: Colorado Department of Public Health and Environment Water Quality Control Commission. 2010. Regulations #33, 37, and 93. <http://www.cdphe.state.co.us/regulations/wqccregs/index.html>

Environmental Consequences: Increased sedimentation towards Sage Creek during spring runoff or from high intensity rainstorms is the most likely environmental consequence from the proposed action. The project proponent has indicated that runoff and sediment would be controlled using wattles and soil berms downslope of stockpiled soil. All drilling fluids will be contained within pits and all drilling supplies will be contained within the area of the drill pad to mitigate potential impacts to surface water. Upon completion of the exploration drilling, the pads will be reclaimed to further reduce the potential for sediment moving towards perennial surface waters. The project as proposed is not expected to further contribute to the existing selenium impairment in the lower reaches of Sage Creek.

Environmental Consequences, No Action Alternative: None

Mitigation Measures: None

**CUMULATIVE IMPACTS SUMMARY:** The past and present uses of the license area are coal mining (surface and underground), oil and gas operations, recreation, dry land farming, grazing, and wildlife. Reasonably foreseeable future activities are: continued underground mining, continued coal exploration, continued surface coal mine reclamation, continued oil and gas operations, dry land farming, grazing, recreation, and wildlife. Drilling two exploration holes would have negligible cumulative impacts due to the small area of disturbance and very short duration of drilling. The area of disturbance within the exploration license area is 0.46 acres in 6,197 acres, or 0.01% of the exploration license area. The duration of operation and reclamation activities for the two holes would be approximately 10 days.

Additional exploration may occur. The amount of disturbance would depend on the number of exploration holes. The exploration activity would be of short duration and the area of

disturbance would be small. Drill holes and drill pads would be reclaimed immediately following drilling activities. The time to drill an exploration hole could range from 3 to 5 days. Cumulative impacts would be minor and of short duration. Surface disturbance associated with the exploration drilling project may temporarily increase the potential for erosion and sedimentation until growth from re-seeding of the drill pads is established. Displacement of grazing animals during the short-term construction and drilling periods may occur. Contrasts in line, form, color, and texture from development would impact the visual qualities on the landscape.

Cumulative impacts to the plant communities within the license and adjacent area include an incremental reduction of continuity in the plant communities in terms of acreages that remain undisturbed. Loss of continuity results in smaller and smaller areas of undisturbed native vegetation and the potential for loss of integrity within the larger plant community. Fragmented plant communities can lose resilience to natural and man-made disturbance due to isolation of areas from seed sources necessary for proper age class distribution of plants, and subsequently, a greater opportunity for stressors such as drought to have a more severe impact on the plant community as a whole. The increased disturbance also makes native plant communities more susceptible to invasion by annual weeds as vectors for increasing weeds. Even with weed control measures applied, the potential for weeds to move further into undisturbed remnant areas increases as these remnants become smaller and more isolated from larger undisturbed areas.

Habitat fragmentation from drill pad construction and drilling operations likely decreases the nesting suitability for migratory birds. Consequences of drilling operations include, but are not limited to, displacement into less suitable habitat, nest abandonment, destruction of nests and loss of habitat. Other impacts, such as habitat fragmentation and the spread of weedy plants can also degrade habitat. Since the proposed drill sites will be reclaimed immediately, these consequences will not be permanent.

Although big game species are able to adapt to disturbances better than other wildlife, increased development would still have impacts. Impacts include, but are not limited to, displacement into less suitable habitat, increased stress and loss of habitat. These impacts are more significant during critical seasons, such as winter or reproduction. Timing stipulations adequately protect big game species during critical times of the year; however, continued exploration activities would lead to decreased use of the habitat due to increased human activity.

It is reasonably foreseeable that a coal lease by application (LBA) may be submitted if the exploration data shows that the coal resource could be economically developed. The cumulative impacts of leasing and mining the coal are not analyzed because it is too speculative to assume whether the data obtained from the exploration data would yield favorable information for leasing the federal coal.

## **STANDARDS:**

**PLANT AND ANIMAL COMMUNITY (animal) STANDARD: SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant) STANDARD:** Since this activity is located on privately owned surface and the Colorado Public Land Health Standards are specific to BLM managed surface lands, this standard does not apply.

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (animal)**

**STANDARD:** The coal exploration license is occurring on private land above federal coal. This standard does not apply.

**PLANT AND ANIMAL COMMUNITY (plant) STANDARD:** The proposed action occurs on privately managed surface. This standard does not apply.

**SPECIAL STATUS, THREATENED AND ENDANGERED SPECIES (plant)**

**STANDARD:** The proposed action occurs on privately managed surface. This standard does not apply.

**RIPARIAN SYSTEMS STANDARD:** The proposed action occurs on privately managed surface. This standard does not apply.

**WATER QUALITY STANDARD:** Surface waters near the proposed exploration holes currently do not meet the public health standard for water quality because of a low priority selenium impairment. However, the project as proposed is not expected to further contribute to this issue. Several mitigation measures, such as pad reclamation and surface runoff water diversion structures, would prevent the potential for sediment movement into nearby perennial waters.

**UPLAND SOILS STANDARD:** The proposed action occurs on privately managed surface. This standard does not apply.

**PERSONS/AGENCIES CONSULTED:** Uintah and Ouray Tribal Council, Colorado Native American Commission, Colorado State Historic Preservation Office.

**SIGNATURE OF PREPARER:**

**DATE SIGNED:**

**SIGNATURE OF ENVIRONMENTAL REVIEWER:**

**DATE SIGNED:**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**  
**DOI-BLM-CO-N010-2011-0096 EA**

On the basis of the information contained in the EA, and all other information available to me, it is my determination that: (1) the implementation of the Proposed Action will not have significant environmental impacts beyond those already addressed in the 2011 Little Snake RMP EIS; (2) the Proposed Action is in conformance with the Resource Management Plan; and (3) the Proposed Action does not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

This finding is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and to the intensity of the impacts described in the EA or as articulated in the letters of comment.

**Context**

The exploration license is located in Routt County, Colorado, in an area with a rich history of coal mining and livestock grazing. The area also contains scattered rural development and habitat for many wildlife species. Surrounding communities include Steamboat Springs, Oak Creek, Hayden and Craig.

**Intensity**

I have considered the potential intensity/severity of the impacts anticipated from the Peabody Sage Creek Mining exploration license application decision relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

**1. Impacts that may be both beneficial and adverse:**

Beneficial, adverse, direct, indirect, and cumulative environmental impacts have been disclosed in the EA. Analysis indicated no significant impacts on society as a whole, the affected region, the affected interests, or the locality. The physical and biological effects are limited to the Little Snake Resource Area and adjacent land.

**2. Degree of effect on public health and safety:**

Public health and safety would not be adversely impacted. There are no known or anticipated concerns with project waste or hazardous materials.

**3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:**

There would be no adverse impacts to regional or local air quality, prime or unique farmlands, known paleontological resources on public land within the area, wetlands,



floodplain, areas with unique characteristics, ecologically critical areas, or designated Areas of Critical Environmental Concern.

**4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial:**

There are no highly controversial effects on the environment.

**5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk:**

There are no effects that are highly uncertain or involve unique or unknown risk. Sufficient information on risk is available based on information in the EA and other past actions of a similar nature.

**6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:**

This alternative does not set a precedent for other actions that may be implemented in the future to meet the goals and objectives of adopted Federal, State, or local natural resource related plans, policies, or programs.

**7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:**

No cumulative impacts related to other actions that would have a significant adverse impact were identified or are anticipated.

**8. Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of scientific, cultural, or historic resources:**

Based on previous and ongoing cultural surveys and through mitigation by avoidance, no adverse impacts to cultural resources were identified or anticipated. There are no known American Indian religious concerns or persons or groups who might be disproportionately and adversely affected as anticipated by the Environmental Justice Policy.

**9. Degree to which the action may be adversely affect an endangered or threatened species or its critical habitat:**

No adverse impacts to any threatened or endangered species or their habitat that was determined to be critical under the Endangered Species Act were identified. If, at a future time, there could be the potential for adverse impacts, treatments would be modified or mitigated not to have an adverse effect or new analysis would be conducted.

**10. Whether the action threatens a violation of federal, state, or local environmental protection law:**

This alternative is in compliance with relevant Federal, State, and local laws, regulations, and requirements for the protection of the environment.

I have reviewed the direct, indirect and cumulative effects of the proposed activities documented in the Peabody Sage Creek Mining Exploration License EA, No. DOI-BLM-N010-2011-0096-EA. I have also reviewed the project record for this analysis and the impacts of the proposed action and alternatives as disclosed in the Alternatives and Environmental Impacts sections of the EA. Based upon a review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. Because there would not be any significant impact, an environmental impact statement is not required.

**SIGNATURE OF AUTHORIZED OFFICIAL:** /s/ Timothy J Wilson  
Wendy Reynolds, Field Manager

**DATE SIGNED:** 12/16/2011

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
LITTLE SNAKE FIELD OFFICE  
DECISION RECORD**

**Peabody Sage Creek Coal Mining LLC Exploration License Application  
Environmental Assessment  
DOI-BLM-CO-N010- 2011-0096-EA**

**DECISION AND RATIONALE:**

I have determined that approving this Exploration License application is in conformance with the approved land use plan. It is my decision to implement the project with the Special Stipulations provided in the Exploration License.

**MITIGATION MEASURES:** The Exploration License application is found in the case file labeled COC-74895. The Special Stipulations for exploration license application are attached and found in the case file labeled COC-74895.

The following standard cultural stipulations apply for this project:

The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony.
- Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may

be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

To protect breeding and nesting greater sage-grouse and Columbian sharp-tailed grouse, exploratory drilling activities would not be permitted from March 1 to June 30.

### **Consultation and Coordination**

There are no threatened or endangered species or habitats for such species present within the proposed exploration license boundary; therefore USFWS was not consulted.

### **Public Involvement**

This project was not scoped; it was listed on the LSFO NEPA log. A Federal Register Notice was published September 8, 2011, (Federal Register Volume 76, Number 174). The Federal Register Notice announced the Notice of Invitation to Participate; Exploration for coal in Colorado License application COC74895. The Notice of Invitation to participate in a coal exploration license was also advertised in the Steamboat Pilot and Today for two consecutive weeks beginning July 16. No comments were received.

### **Plan Consistency**

Based on information in the EA, the project record, and recommendations from BLM specialists, I conclude that this decision is consistent with the Little Snake RMP/ROD (October, 2011), the Endangered Species Act; the Native American Religious Freedom Act; other cultural resource management laws and regulations; Executive Order 12898 regarding Environmental Justice; and Executive Order 13212 regarding potential adverse impacts to energy development, production, supply and/or distribution.

### **COMPLIANCE PLAN(S):**

#### **Compliance Schedule**

Compliance will be conducted during the construction phase and drilling phase to insure that all terms and conditions specified in the exploration license are followed. File inspections will include a review of all required reports.

#### **Monitoring Plan**

The exploration hole locations will be monitored during the drilling operations for compliance with pertinent Regulations and Special Stipulations until final reclamation. The Colorado

Division of Reclamation, Mining, and Safety and the BLM will concur on final reclamation and bond release.

### **Assignment of Responsibility**

Responsibility for implementation of the will be assigned to the Solid Mineral staff in the Little Snake Field Office. The primary inspector will be the Mining Engineer, but Natural Resource Specialist, and Land Law Examiner may also be involved.

### **Administrative Remedies**

Administrative remedies may be available to those who believe they will be adversely affected by this decision. Appeals may be made to the Office of Hearings and Appeals, Office of the Secretary, U.S. Department of Interior, Board of Land Appeals (Board) in strict compliance with the regulations in 43 CFR Part 4. Notices of appeal must be filed in this office within 30 days after publication of this decision. If a notice of appeal does not include a statement of reasons, such statement must be filed with this office and the Board within 30 days after the notice of appeal is filed. The notice of appeal and any statement of reasons, written arguments, or briefs must also be served upon the Regional Solicitor, 755 Parfet Street, Suite 151, Lakewood, CO 80215. Appeal and stay procedures are outlined in Form 1842-1.

The effective date of this decision (and the date initiating the appeal period) will be the date this notice of decision is posted on BLM's internet website.

/s/ Timothy J Wilson for  
Wendy Reynolds  
Field Manager, Little Snake Field Office

12/16/2011  
Date

### **Attachment**

Attachment A: Special Stipulations

## **Attachment A**

### **Special Stipulations, Exploration License COC74895**

1. All exploration drill holes must be capped with at least five feet of cement and plugged with a permanent plugging material that is unaffected by water or hydrocarbon gases and will prevent the migration of gases and water in the drill hole under normal hole pressures. For exploration holes drilled deeper than stripping limits, the licensee, using cement or other suitable plugging material approved by the Little Snake Field Manager, shall plug the hole through the thickness of the coal bed(s) or mineral deposit(s) and through aquifers for a distance of at least 50 feet above and 50 feet below the coal bed(s) or mineral deposit(s) and aquifers or to the bottom of the drill hole. A lesser cap or plug may be approved by the Little Snake Field Manager. Item A illustrates the minimum requirements for plugging drill holes.
2. The requirements for submission of geologic and abandonment information provided in Item B (attached) shall be followed.
3. All lands not previously inventoried for cultural resources shall be inventoried prior to surface disturbing activities. Two copies of the report for this inventory will be prepared and forwarded to the Field Manager. Upon approval by the Field Manager, operations may proceed.

The following standard stipulations apply for this project:

1. The operator is responsible for informing all persons who are associated with the operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are encountered or uncovered during any project activities, the operator is to immediately stop activities in the immediate vicinity of the find and immediately contact the authorized officer (AO) at (970) 826-5000. Within five working days, the AO will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the identified area can be used for project activities again; and
- Pursuant to 43 CFR 10.4(g) (Federal Register Notice, Monday, December 4, 1995, Vol. 60, No. 232) the holder of this authorization must notify the AO, by telephone at (970) 826-5000, and with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c)

and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.
4. If buried cultural or Paleontological resources are discovered during exploration operations under this license, the licensee shall immediately notify the Field Manager and shall not disturb such discovered resources until the Field Manager issues specific instructions.
  - a. Within 5 working days after notification, the Field Manager shall evaluate any cultural resources discovered and shall determine whether any action may be required to protect or to preserve such discoveries.
  - b. The cost of data recovery for cultural resources discovered during exploration operations shall be borne by the licensee, if the licensee is ordered to take any protective measures. Ownership of cultural resources discovered shall be determined in accordance with applicable law.
5. All waste material will be contained on site in a trash cage or other portable storage device and hauled to a county approved landfill. No hazardous materials / hazardous wastes or trash shall be disposed of on lands under this license. If a release does occur, it shall be reported to this office immediately.
6. All drill holes will be geophysically logged with natural gamma, density, resistivity, and caliper curves.
7. In order to avoid degradation of potential riparian conditions or water sources, no surface disturbance will be allowed within 200 feet of an active stream channel supporting riparian vegetation, springs, ponds, or reservoirs.
8. During periods of adverse conditions such as thawing, heavy rains, snow, or flooding, all activities off existing maintained roads that results in surface rutting in excess of 4 inches will be suspended. Restoration of excessive ruts that occur will be required.
9. No water shall be removed from BLM allotment reservoirs without approval of the Field Manager.

10. Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. If applications of herbicide are prescribed, however, it is the responsibility of the lease operator to insure compliance with all local, state and federal laws and regulations, as well as labeling directions specific to the use of any given herbicide.

A Pesticide Use Proposal (PUP) will be approved prior to application of herbicides and/or other pesticides on Federal surface; contact the Little Snake Resource Field office to obtain a PUP form to request this authorization. Submit the PUP 2 months in advance of planned application. In the event you elect to apply herbicide or other pesticide as described and authorized on the approved PUP, you must report this use within 24 hours on Bureau of Land Management form titled Pesticide Application Record.

11. Operations on sites on slopes greater than 35% will be conducted during periods of dry soil conditions and rehabilitated immediately upon completion.
12. Pursuant to 43 CFR 10.4(g) the Lessee must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
13. In order to protect breeding and nesting greater sage-grouse and Columbian sharp-tailed grouse, exploratory drilling activities will not be permitted from March 1 to June 30.

#### ITEM A

An abandonment report must be submitted after the drill holes have been properly conditioned for abandonment or converted to monitoring wells. The report should contain the following:

1. For abandoned holes, describe or illustrate the method by which each hole was plugged and conditioned for final abandonment.
2. For holes converted to monitoring wells, describe or illustrate the well completion method (cementing, casing set, perforation interval, etc.), what aquifer(s) is being monitored, duration and frequency of monitoring, and types of tests planned (pH, conductivity, pump, cation, etc.)
3. Status of reclamation of all disturbed areas.
4. Completion of additional drill holes as hydrologic monitoring wells is considered to be a modification to the exploration plan and must be approved in advance by the authorized officer.



## ITEM B

To clarify 43 CFR 3485.1 (b), please submit one copy of the following within 30 days after each calendar year:

1. Lithologic and geophysical logs and any other required logs of strata penetrated and conditions encountered appropriately identified by hole number.
2. Analyses of coal and other pertinent tests appropriately identified by drill hole number. Identify types of tests that were run (proximate, ultimate, moisture-mineral-matter free basis, etc), and whether the reported results were analyzed or calculated as composite or incremental samples.
3. Drill hole location map showing lease or license boundary, coal crop lines, drill hole numbers, and township, range and section lines and numbers.
  - a) List of drill hole numbers and depths drilled.